UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,776	04/16/2004	Laurene Janet Barsotti	BARSOTTI 1-1-1-2	1292

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1526 SPRUCE STREET	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

CPW

	Application No.	Applicant(s)
Office Action Summary	10/826,776	BARSOTTI ET AL.
	Examiner	Art Unit	
	Eric C. Wai	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>16 April 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-17</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-17</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>16 April 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-17 are presented for examination.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claims 1-10 are rejected because the claimed invention, appearing to be comprised of <u>software alone</u> without claiming associated <u>computer hardware</u> required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e. a practical application).

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1, 3, 5, 8, 11, 13, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Carlson et al. (US Pat No. 6,842,898 hereinafter Carlson).

6.   Regarding claim 1, Carlson teaches a computing system providing multi-

threaded programming support, comprising:

        a thread monitor class providing thread monitoring services to threads of a multi-

threaded process (col 4 lines 46-49), the thread monitor class including:

        a thread registration method to register a thread for monitoring by the class (col 5

lines 18-22, wherein threads are registered to be monitored based on criteria); and

a thread monitoring supervisor to monitor all threads registered for monitoring operation

of threads (col 4 lines 46-49).

7.   Regarding claim 3, Carlson teaches that the thread monitor class further

includes: a stop thread monitoring method to terminate monitoring of all threads

registered for monitoring by the class (col 5 line 66 to col 6 line 3, wherein the class can

kill threads).

8.   Regarding claim 5, Carlson teaches that the thread registration method

comprises: a thread alive check registration method invoked by a thread to register for

monitoring by the class wherein the monitoring comprises periodically verifying that the

invoking thread is still alive (col 5 lines 25-32).

9.   Regarding claim 8, Carlson teaches that the thread monitoring supervisor is

instantiated within a main thread of a multi-threaded program (col a 4 lines 46-59).

10.   Regarding claims 11 and 15, they are the method claims of claims 1 and 8

above. Therefore, they are rejected for the same reasons as claims 1 and 8 above.

11.   Regarding claim 13, Carlson teaches that the step of monitoring further

comprises determining whether said additional thread is still alive to monitor operability

of said additional thread (col 5 lines 25-32).

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

13.   Claims 2, 9-10, and 16-17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Carlson et al. (US Pat No. 6,842,898).

14.   Regarding claim 2, Carlson does not explicitly teach that the thread monitor class

further includes a thread un-registration method to remove a prior registration of a

thread for monitoring by the class.

15.   However it would have been obvious to one of ordinary skill in the art at the time

of the invention to include a thread un-registration method. It is well known in the art that

threads can complete their execution once their task is complete. One would be

motivated by the desire to un-register a thread once that thread has completed its

execution.

16.   Regarding claims 9-10, Carlson does not explicitly teach that the thread

monitoring supervisor is further operable to restart an inoperable thread or restart the

process that includes an inoperable thread.

17.   Carlson does teach methods that allow a class to recover from an error state (col

6 line 1). It would have been obvious to one of ordinary skill in the art at the time of the

invention, to have modified Carlson to include that the thread monitoring supervisor is

further operable to restart an inoperable thread or restart the process that includes an

inoperable thread. One would be motivated by the desire to recover from the errors that

resulted in the thread being inoperable an indicated by Carlson.

18.   Regarding claims 16-17, they are the method claims of claims 9-10 above.

Therefore, they are rejected for the same reasons as claims 9-10 above.

19.   Claims 4, 6-7, 12, and 14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Carlson et al. (US Pat No. 6,842,898) in view of Bowers (US Pat No.

7,051,331).

20.   Regarding claim 4, Carlson does not explicitly teach that the thread monitor class

further includes: a thread HeartBeat method to signal a HeartBeat from a thread

registered for monitoring by the class.

21.   Bowers teaches a monitoring method, which uses a heartbeat interface to

periodically indicate to whether or not a worker process is functioning improperly (col 2

lines 8-16).

22.   It would have been obvious to one of ordinary skill in the art at the time of the

invention to include a thread HeartBeat method to signal a HeartBeat from a thread

registered for monitoring by the class. Bowers teaches that using a Heartbeat signal has

multiple advantages over the prior art (col 1 lines 28-55).

23.   Regarding claims 6-7, Carlson does not explicitly teach that the thread

registration method comprises: a thread poll registration method invoked by a thread to

register for monitoring by the class wherein the monitoring comprises periodically

verifying that the invoking thread is properly operating by invoking a poll method derived

from the thread poll registration invocation wherein the thread poll registration method

comprises a thread Heartbeat registration method. .

24.   Bowers teaches a monitoring method, which uses a heartbeat interface to

periodically indicate to whether or not a worker process is functioning improperly (col 2

lines 8-16).

25.   It would have been obvious to one of ordinary skill in the art at the time of the

invention to include a thread HeartBeat method to signal a HeartBeat from a thread

registered for monitoring by the class. Bowers teaches that using a Heartbeat signal has

multiple advantages over the prior art (col 1 lines 28-55).

26.   Regarding claims 12 and 14, they are the method claims of claims 6-7 above.

Therefore, they are rejected for the same reasons as claims 6-7 above.

Conclusion

27.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Eric C. Wai whose telephone number is 571-270-1012.

The examiner can normally be reached on Mon-Thurs, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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